Intrapulmonary Percussive Ventilation as a Lung Recruitment Strategy in Brain-Dead Organ Donors.

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OBJECTIVE: To determine the strength of the evidence evaluating the effectiveness of intrapulmonary percussive ventilation (IPV) as a safe alternative or adjunctive therapy to traditional chest physiotherapy (CPT) among potential organ donors.

DATA SOURCES: Literature search conducted from February 2015 to November 2015 using PubMed, Cumulative Index of Nursing and Allied Health Literature, Scopus, and bibliographies of pertinent articles.

SEARCH TERMS: Intrapulmonary percussive ventilation, chest physiotherapy, chest wall oscillation, organ donors, and ventilation.

STUDY SELECTION: Articles in English from 1994 to present directly compared IPV to CPT or conventional (no) therapy.

DATA EXTRACTION: Association of Critical-Care Nurses Levels of Evidence was used to determine the strength of evidence. Level B and level C articles were reviewed.

DATA SYNTHESIS: No studies were found using IPV in the donor population. Results from studies using IPV in other populations indicated IPV had no adverse effects, improved sputum clearance and oxygenation, and reduced atelectasis and pneumonia in patients with artificial airways.

CONCLUSION: Intrapulmonary percussive ventilation may be a safe and effective alternative or adjunctive to CPT therapy and improve the number of lungs available for transplantation. Clinical research is essential to determine the effectiveness of this therapy for lung recruitment in the donor population.

KEYWORDS: chest physiotherapy; intrapulmonary percussive ventilation; lung recruitment; organ donor; ventilation

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